



UNM LEARN



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## Take Test: Quiz 4.4

### Test Information

Description

Instructions

Multiple Attempts This test allows multiple attempts.

Force Completion This test can be saved and resumed later.

### Question Completion Status:

Which of the following statement(s) show the state transition matrix?

☒  $e^{At}$

☐  $Ce^{At}x_0$

☐  $|sI - A|$

☒  $(sI - A)^{-1}$

### QUESTION 2

**1 points****Saved**

True or false? The state transition matrix appears in the equation describing the output response.

☒ True

☐ False

**QUESTION 3****1 points****Saved**

Which of the following statement(s) correctly describe the relationship between the state response, the forced response, and the natural response?

- ☐ The state response is the same as the forced response.
- ☐ The forced response is the sum of the state response and the natural response.
- ☒ The state response is the sum of the forced response and the natural response.
- ☐ The state response is the same as the natural response.

**QUESTION 4****1 points****Saved**

True or false?

The Laplace transform of the state transition matrix is

$$\mathcal{L}\{e^{At}\} = (sI - A)^{-1}.$$

- ☒ True
- ☐ False

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*

**Save All Answers****Save and Submit**